



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4

ATLANTA FEDERAL CENTER
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ATLANTA, GEORGIA 30303-8960

Date: July 12, 2010

Ms. Jennifer Harris, P.E.
North Carolina Turnpike Authority
5400 Glenwood Avenue, Suite 400
Raleigh, North Carolina 27612

SUBJECT: Federal Final Environmental Impact Statement for the Monroe Connector/Bypass, From I-485 at US 74 to US 74 Between the Towns of Wingate and Marshville, Mecklenburg and Union Counties, North Carolina; TIP Project Nos.: R-3329/R-2559; FHWA-E40825-NC; CEQ No.: 20100209

Dear Ms. Harris:

The U.S. Environmental Protection Agency Region 4 (EPA) has reviewed the subject document and is commenting in accordance with Section 309 of the Clean Air Act and Section 102(2)(C) of the National Environmental Policy Act (NEPA). The North Carolina Turnpike Authority (NCTA) and the Federal Highway Administration (FHWA) are proposing to construct an approximate 20-mile, multi-lane, median divided bypass and toll facility from I-485 at US 74 to US 74 between the Towns of Wingate and Marshville in Mecklenburg and Union Counties.

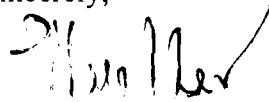
The NCTA is utilizing the agency coordination process under SAFETEA-LU Section 6002. EPA provided detailed scoping comments under this process in a letter dated February 14, 2007, and comments on the Draft Environmental Impact Statement (DEIS) on June 15, 2009. In addition to comments on the Final Environmental Impact Statement (FEIS), EPA is also providing written comments on the Draft Indirect and Cumulative Effects (ICE) Quantitative Analysis report dated February 19, 2010. EPA has attached detailed technical review comments (See Attachment A).

EPA's primary environmental concern remains unresolved for impacts to the waters of the U.S., including the need to demonstrate additional avoidance and minimization for direct impacts to jurisdictional streams and wetlands, the need to provide environmental commitments to reduce the indirect and cumulative effects (ICE) to Section 303(d) listed impaired streams and the need to provide a detailed conceptual mitigation plan for jurisdictional impacts. These Clean Water Act issues need to be addressed prior to the issuance of a Record of Decision (ROD). FHWA and NCTA should consider a reduced median width and other avoidance and minimization measures to reduce the construction footprint in jurisdictional areas. FHWA and NCTA should work closely with local governments to insure that ICE resulting from the proposed project does not further degrade Section 303(d) listed streams. EPA recommends that a compensatory mitigation meeting be planned to discuss the conceptual mitigation for unavoidable impacts. EPA continues to have environmental concerns for wildlife habitat fragmentation, farmland losses, socio-economic impacts to existing businesses, and

Mobile Source Air Toxics (MSATs). EPA also believes that additional consideration should be given with respect to MSATs associated with the Preferred Alternative DSA D and identified near- roadway, sensitive receptors. We understand that there is also an unresolved issue that needs to be addressed concerning the Carolina heelsplitter in the Goose Creek watershed per Section 7 of the Endangered Species Act; EPA defers to the U.S. Fish and Wildlife Service on this issue.

Mr. Christopher Militscher of my staff will continue to work with you and FHWA and other agencies on the continued environmental coordination activities for this project. Please feel free to contact Mr. Militscher of my staff at (919) 856-4206 should you have specific questions concerning EPA's comments.

Sincerely,

A handwritten signature in black ink, appearing to read "H. Mueller", with a checkmark at the end.

Heinz J. Mueller, Chief
NEPA Program Office

Cc: J. Sullivan, FHWA
K. Jolly, USACE
B. Wrenn, NCDENR
G. Thorpe, NCDOT

w/Attachment A

Attachment A
FEIS Detailed Review Comments
Monroe Bypass/Connector Toll Facility
Mecklenburg and Union Counties
R-3329/R-2559

Response to EPA DEIS Comments

Responses to EPA's DEIS comments are included in Appendix B1 from pages B1-37 to B1-83. In addition, Section 3 of the FEIS also provides responses to generalized comments on Purpose and Need, the Range of Alternatives, Air Quality, Indirect and Cumulative Effects, and Protected Species.

Many of NCTA and FHWA's responses to DEIS comments are a reiteration of its stated positions from the DEIS and during TEAC meetings. For example, Comment #2, Page B1-49 refers to 'likely would be overwhelmed' and 'would not provide for high-speed regional travel'. The responses are generic and are not supported by actual analysis. Another unresolved issue pertains to traffic forecasting where Comment #2 refers to a substantial increase in traffic volumes expected by 2035. However, vehicle miles traveled (VMTs) are expected to slightly decrease. The modeling and projections are not believed by EPA to be accurate or reasonable. The projected VMT decrease is partly defended on the position that people from the north will have a shorter route to the new toll facility. However, people who live south of existing US 74 will have a longer route to use the new toll facility. Population demographics actually show more people living to the south of existing US 74 than north of it. The other rationale for decreased VMTs is the 'slightly shorter route' of the new toll facility versus existing US 74. The ICE report also includes the potential for 1,300 new households in the project study area as well as hundreds of acres converted to commercial uses around new interchanges. This expected development would invariably increase VMTs as well.

EPA notes that the information contained in Section 1.1.8 of the FEIS on existing roadway improvements that has occurred in the past ten years. This new information contradicts and corrects the statement made in the DEIS: "Few, if any access management techniques have been applied to this roadway" (Comment #3, B1-49). Obviously from the list provided on pages 1-5 and 1-6, a substantial number of individual improvements to existing US 74 have been made during the last ten years. With all of these improvements, including numerous turn lane additions by NCDOT for retail stores and other commercial facilities, it indicates that local planners were encouraging significant amounts of commercial and retail development along this regionally strategic east-west highway corridor (See also NCTA Response to Comment #8). Local planners apparently did not believe that the US 74 corridor needed to be a regional high-speed facility as proposed by the NCDOT almost 20 years ago nor did they incorporate reasonable access and congestion management techniques in their local planning and zoning for these new commercial and retail facilities. Apparently, the local assumption was that NCDOT and FHWA would build Union County a new Monroe bypass as was initially proposed back in the late 1980's.

Regarding the Response to Comment #11, EPA continues to disagree with Quantitative Third Screening that was used for the Detailed Study Alternatives and the use of a 'conceptual right of way' and GIS level data in lieu of actual wetland and stream delineations. The FEIS response to EPA's DEIS comment has not been adequately addressed. Similarly, Responses to Comments #12 and #13 do not address the increases and decreases in residential and business relocations and jurisdictional impacts. For Response to Comment #15, there is no socio-economic analysis to local businesses and retail stores along US 74 that will potentially see far less business once the new toll facility is constructed. Response to Comment #18 does not include recommendations for potential avoidance and minimization by reducing the 70-foot proposed median and 12-foot paved outside shoulders. There is no specific recommendation as to what 'additional opportunities for impact minimization and cost reduction' will be and what opportunity for agency input will be considered during the final design.

The Response to Comment #19 concerning compensatory mitigation is not detailed or responsive to the specific issues (See comments below). The conceptual mitigation plan referenced in Response to Comment #20 and included in Section 2.5.4.4 is not detailed. Essentially, NCTA and FHWA state that with the exception of possibly 4 on-site mitigation opportunities, all compensatory mitigation will be provided through the in-lieu fee program of the Ecosystem Enhancement Program (EEP) and they have been regularly apprised of anticipated mitigation requirements. Unfortunately, NCTA and FHWA have been going on the assumption that only some of the intermittent stream impacts will require compensatory mitigation. This is no longer the case, as the North Carolina Division of Water Quality now requires mitigation for all intermittent streams. The conceptual mitigation plan is actually a technical memorandum that is incorporated by reference to the FEIS (This document should have been included in one of the appendices to the FEIS). There is no information provided through the EEP as to what mitigation assets are available or what is being planned for the impacted watershed basins. This deficiency of a detailed mitigation proposal is significant and needs to be resolved prior to the issuance of a ROD. Response to Comment #24 is also not responsive. The resource and permitting agencies have not been given the opportunity to provide a detailed field review of the 4 potential sites. EPA continues to have substantial environmental concerns for the lack of detail concerning compensatory mitigation.

NCTA and FHWA's Response to Comment #22 is not responsive and there is no estimate of potential impacts to jurisdictional resources from anticipated borrow pits and from waste disposal. This potentially substantial environmental issue is being deferred to later design work and potentially after the issuance of the Record of Decision (ROD). EPA does not agree with the Response to Comment #23 and the ICE findings. Contrary to the response provided, there are anticipated water quality issues associated with the proposed project, and minimally, to the 303(d) listed Stewarts Creek. Pollutant loadings for the six catchments did not remain 'unchanged' between the 2030 No Build and the 2030 Recommended Preferred Alternative (RPA) scenarios. Table 17 of the ICE shows Total Nitrogen (TN) for lower Richardson's Creek to be 1.52% higher between the 2030 RPA and 2030 No-Build. Total Phosphorus (TP) shown in Table 18 is also increased by

2.52% and 4.50% for Stewarts Creek and Richardson's Creek, respectively. Table 19 likewise shows four catchments with increased Total Suspended Solid (TSS) between 1.45% and 2.20% between the 2030 RPA and the 2030 No-Build. Referring to Tables 20 and 21, Total Fecal Coliform for Richardson's Creek is estimated to increase by 20.49% and Mean Fecal Coliform for Ray's Fork is estimated to increase by 46.9% between the 2030 RPA and the 2030 No-Build. The statement that "*water quality in these catchments was found to be unaffected by the Project...*", is inaccurate and not supported by the ICE report findings.

The Response to Comment #27 is similar to the discussion provided for Comment #2. EPA does not concur with the analysis on VMTs provided in the FEIS. The land use assumptions as it relates to a lack of access to sewer service in Response to Comment #29 is speculative. The ICE predicts 1,200 acres of low-density residential development, 700 more acres of medium density residential development and approximately 100 acres of industrial/office/institutional development compared to the 2030 No-Build. Considering the 'development sprawl' that has characterized the eastern portion of the project study area for the last 10 years or more, this additional increase in development resulting from the new toll facility is believed by EPA to be very significant. Water supply, wastewater treatment, available 'greenspace', and other natural resources will be further strained in the project study area resulting from the construction of the new toll facility.

Responses to the EPA comments on Mobile Source Air Toxics (MSATs) are noted and EPA does not concur that a site specific analysis should not be performed for potential near roadway sensitive receptors such as schools identified from the DEIS. EPA has reviewed the updated information contained in Appendix E. NCTA and FHWA acknowledge there may be some localized MSAT increases and decreases but do not consider the near roadway aspects to sensitive receptors nor the potential for possible mitigation measures (such as noise walls) where schools will be in close proximity to the new toll facility. The same arguments concerning modeling deficiencies, health effects, future vehicle and fuel standards, national MSAT emission 'trends', etc. is repeated from previous NEPA documents and FHWA's 2006 Interim Guidance. The assessment criteria for performing a quantitative MSAT analysis is not specifically supported by any relevant or creditable studies or research. This regional 'airshed' view is not believed to be fully relevant to near roadway sensitive receptors. Higher traffic volumes of 140,000 ADT or more is not related to the proximity of the sensitive receptors to the new facility or the likelihood of exposure, including duration and concentration. There are innumerable toxicological studies that document the 'cumulative and synergistic effects' of exposure to harmful chemicals. The air quality in the Metrolina area is already compromised for ozone and particulate matter. Sensitive populations are already at greater risk from exposure to MSATs. The analysis provided in the FEIS does not address this issue. Much of the emission assumptions for MSATs are based on VMT estimates that are not believed to be accurate. The 3 elementary schools and 1 high school cited on page E-6 continue to be locations where, at a minimum, NCTA and FHWA should commit to localized MSAT monitoring, including baseline information and post-construction. The Responses to Comments #33, #34 and #35 are also not responsive and the same guidance and DEIS positions on MSATs is cited.

Regarding Response to Comment #32, EPA will provide specific recommendations on reducing construction emissions at future TEAC meetings. It is confusing as to why NCTA and FHWA were unable to obtain this requested information on low-sulfur diesel fuel sources, air pollution control devices for equipment and other construction issues prior to issuing a FEIS.

The Responses to Comments #37 and #38 regarding Farmlands furthers EPA's previous concerns regarding the loss of agriculture in the project study area and the significant impact the proposed project will have on suitable prime and unique farmlands. The 2007 Census of Agriculture information confirms the continued trends of losing farmlands in North Carolina, including those in Mecklenburg and Union Counties. DSA D will convert 964 acres of prime farmland soils and Statewide and important farmland soils to non-agricultural uses. This represents 1.5 square miles of direct impact, exclusive of the indirect and cumulative effects from new development spurred by the project (The ICE predicts 1,200 acres of low-density residential development, 700 more acres of medium density residential development and approximately 100 acres of industrial/office/institutional development compared to the 2030 No-Build). This equates to potentially an additional 3.1 square miles of converting farmland soils and terrestrial forests to non-agricultural uses. The farm displacements comment in Section 1.3.2.4 is speculative opinion and not supported by any actual investigation or inquiry into 'suitable farm replacement property'.

Part of the Response to Comment #39 is included in Section 1.3.4.3 regarding impacts to natural communities and wildlife. Under terrestrial wildlife the following statement is included in the FEIS: "*Habitat fragmentation also is expected to occur under the No-Build Alternative due to continued growth in population and development within Union County*". This comment is meant to detract from the actual impacts from the proposed project. A new, 19.7-mile, multi-lane high speed "linear" facility in a suburban and rural setting and the indirect and cumulative effects of induced development is going to have a significant impact on habitat fragmentation. Wildlife mortality and vehicle collisions with large mammals such as deer are expected to be very substantial. The FEIS does not propose any form of mitigation for these serious safety and environmental issues.

EPA acknowledges the NCTA and FHWA's comments concerning air quality, North Carolina State Implementation Plan (NCSIP), and transportation conformity.

Jurisdictional Wetland and Stream Impacts

FHWA and NCTA's preferred alternative DSA D has 9,794 linear feet of perennial stream impact, 12,269 linear feet of intermittent stream impact for a total of 22,063 linear feet of stream impact. However, these impacts are actually from the DEIS. These impacts include 104 total stream crossings. Wetland impacts are estimated at 8.1 acres with 47 total wetland systems being impacted. There are 2.6 acres of pond impacts. Impacts were estimated using functional design construction limits with an additional 40-

foot buffer (“in accordance with NCDOT procedures”; Footnote in Table 1-8). Under the NEPA/Section 404 Merger process, preliminary designs are typically utilized and are more accurate than functional designs. Under the Merger process, calculations are based upon construction slope stakes and 25-foot buffers. EPA is uncertain as to the accuracy of the impact estimates as provided by NCTA for the proposed project. This is further illustrated on Pages 2-33 and 2-34 where impacts actually increased following the issuance of the DEIS. Service roads have added an additional 1,489 linear feet of total stream impact which 1,260 linear feet is expected to require compensatory mitigation. Table 2-11 does not match the information contained in Table 1-8. The total length of streams requiring compensatory for the preferred alternative DSA D increased by 685 linear feet to total 13,235 linear feet from the issuance of the DEIS (Table 2-3). Overall, stream impacts after avoidance and minimization proposed by NCTA and FHWA increased by 1,020 linear feet (i.e., 22,063 linear feet for DSA D in DEIS and 23,083 linear feet for DSA D in FEIS). Design refinements identified on Page 2-34 resulted in a decrease of 709 linear of jurisdictional stream impacts, but the overall total stream impacts increased to 23,083 linear feet. Wetland impacts remained the same, pond impacts increased by 0.5 acres, the number of streams impacted increased by 3 to total 107 and the number of wetland systems impacted decreased by 1 to 46 systems. Most of the bridging decisions discussed during the TEAC meetings were based upon avoidance to human resources (Section 2.3 of the FEIS) and not to specifically reducing impacts to jurisdictional systems. Indirectly, there were some reductions to the increases resulting from the inclusion of service roads and their anticipated impacts (Page 2-11 of the FEIS). However, the overall increase in stream impacts from the DEIS to the FEIS for the Preferred Alternative DSA D (and “the likely LEDPA”; Page 3-4) is approximately 4.6%. These stream impact ‘reductions’ are identified on Pages 2-11 and 2-12, Section 2.3.3 of the FEIS. EPA continues to have substantial environmental concerns that the DEIS did not provide an accurate assessment and analysis of the actual jurisdictional impacts. Other Section 404 avoidance and minimization measures such as steeper side slopes in jurisdictional areas, reduced median widths, reduced paved shoulders, the use of retaining walls, etc., were not addressed and should be considered during TEAC meetings and included in the Record of Decision (ROD).

Compensatory Mitigation and Other Special Conditions

The FEIS includes statements that compensatory mitigation is only required for intermittent streams scoring greater than 26 on the DWQ stream delineation forms. EPA understands that NCDWQ is requiring compensatory mitigation for all jurisdictional streams, including intermittent and perennial. The NCDWQ compensatory mitigation requirement for all intermittent streams was made effective in October of 2009. The ‘conceptual mitigation plan’ identified on Page 2-34 is not detailed. The EEP assets that are currently available or planned for this project are not included in the generalized discussion. The potential mitigation credits for the 4 sites are not listed. The statement under ‘Wetland Finding’ that wetland impacts resulted in no net gain from the refined design is misleading. Jurisdictional stream impacts increased from the addition of service roads between the DEIS and the FEIS.

The FEIS indicates on Page 2-33 that stream and wetland impacts are expected to decrease from functional designs to preliminary designs as the level of the design increases. The total impact to streams is 23,083 linear feet and the total wetland impact is estimated at 8.1 acres. Surface water or pond impacts are estimated at 3.1 acres. EPA continues to have substantial environmental concerns for water quality based on the magnitude of the impacts to waters of the U.S. North Fork Crooked Creek, South Fork Crooked Creek, Richardson Creek and Stewarts Creek are all on the 303(d) list of impaired waters.

The FEIS identifies that, “strict adherence to standard Best Management Practices (BMPs) including those for sedimentation and erosion control and the NCDOT Design Standards in Sensitive Watersheds, will minimize project impacts”. A North Carolina State University (NCSU) study conducted for NCDOT potentially refutes this proposition, especially in very erosive Piedmont soils. This 3-year study showed that tons of sediment each year was lost from an NCDOT highway project despite the use of BMPs and that 2 of the 3 years of the study were in severe drought conditions. NCTA and FHWA seem to be anticipating these potential impacts to impaired waters using BMPs as ‘a turbidity water quality testing program’ for the main stem of Stewarts Creek will also be implemented to evaluate the performance of BMPs (Page 2-32). Testing is proposed upstream and downstream of the construction area as well as before, during and after construction. While EPA generally supports this testing program, the FEIS fails to provide an adequate response plan to potential turbidity problems once they are detected through sampling (testing). The FEIS places full responsibility of ‘pollution’ and implementation of BMPs on the selected contractor. EPA believes that a turbidity-testing program is also appropriate for other impacted 303(d) listed waters, including Richardson Creek, North Fork Crooked Creek and South Fork Crooked Creek

Indirect and Cumulative Effects Quantitative Analysis

Appendix I of Volume 3 includes the Quantitative Indirect and Cumulative Effects (ICE) Analysis on Water Quality. Also, Page 2-49 and 2-50 of the FEIS includes a summary of water modeling. The ICE analysis includes models and calculations based on various land use change assumptions for impervious cover changes. The FEIS report contains the same tables presented in the March 11, 2010, draft ICE report. Model estimates of annual stream flow, runoff and annual pollutant loadings of total nitrogen, total phosphorus, total suspended solids and fecal coliform. A Baseline condition, 2030 No-Build and 2030 Build scenarios were evaluated. EPA does believe that the following statement is germane to the direct action under consideration: *“In reality, substantial reductions in pollutant loadings could be attained as future development takes place if existing BMP regulations are enforced and BMPs are constructed and maintained properly”*. Table 5 in the ICE report shows that Union County has no stormwater BMPs.

Indirect and cumulative effects including changes in impervious surface are expected to be very significant in several of the watersheds. The North Fork Crooked Creek, South Fork Crooked Creek, Richardson Creek and Stewarts Creek are 303(d) listed. One of the largest predicted ICE changes in pollutant loadings is to Stewarts

Creek. Obviously, new development and a lack of enforced BMPs have obviously caused the watershed to be impaired (Page 2-50). NCTA and FHWA propose no mitigation for the ICE resulting from the proposed project and the changes in impervious surfaces, development density and pollutant loadings to Stewarts Creek. An increase of 7% increase in impervious surface in the Stewarts Creek watershed could have increased indirect and cumulative impacts on water quality that do not appear to be addressed in the ICE report or the FEIS. The North Fork Crooked Creek, South Fork Crooked Creek, and Richardson Creek are also 303(d) listed. Several other 303(d) listed streams will also have ICE that result in additional pollutant loadings, including Richardson Creek and Crooked Creek although the rate of change in impervious surface is predicted to be lower. NCTA and FHWA are proposing no mitigation for the ICE to water quality to these impaired waters. FHWA's position on not mitigating for ICE is included on Page 3-22 of the FEIS.

The ICE makes several assumptions in predicting future land use in the study area. One of the assumptions is that growth in Union County may be controlled by a moratorium on new sewer connections. There may be a moratorium implemented at the local level, however, the moratorium implemented by NCDWQ has subsequently been lifted. It is also NCDWQ's position that Union County's existing wastewater facilities currently have the capacity to accept additional waste loads. The ICE analysis does not appear to reflect this changed condition and what effects it would have on growth projections through the design year of 2030. Table 1-7 provides active NPDES permits with discharges to streams in the project study area. The permitted flows are included for 6 of the 8 entities listed. Alvac and the City of Monroe are apparently not limited. EPA requests that the average daily flow versus capacity be provided in the ROD. This 'capacity versus use' issue should be further evaluated in the context of the ICE assumptions on development in the project study area. It is also important to note that all of the receiving streams shown in Table 1-7 are 303(d) listed for impairments. EPA has concerns regarding riparian buffers and what controls have actually been adopted, are being implemented and enforced through local governments.

EPA continues to have substantial environmental concerns resulting from the indirect and cumulative effects of the recommended preferred alternative (RPA – DSA D) on water resources and the lack of proposed measures to address these impacts. These environmental concerns need to be addressed prior to the issuance of a ROD.